images.

So in this case we have this single image from the DAS module we also have an EDR report that was generated by this vehicle. And we have this data set that we're looking at here which reflects the incident and the EDR report lines up with this data set in a sense that the accelerator spell was pressed manually to a hundred percent and sustained prior to the incident and during the time of the accident.

Q So the image that was captured I just want to clarify that did land on the SD card inside the car correct?

A It did yes. Ask that's how we have a copy of it here. Because upon the -- upon the trigger of on urgent alert or crash alert, the SD card data was uploaded to car logs.

Q Is the data that's on the car log redundant to all the data that's on the SD card?

A How do you mean that? And can you be more specific please?

Q Sir is all the data on the SD card for this car for this event also replicated on the car log?

A Yes. So the copy of data lives on the vehicle at all times Tesla will receive -- Tesla will receive logs from the car, you know, during for example during

this incident and if a service technician requests logs from the car. But if you want the data set the original data set it all lives on the car on the SD card. So yes. The entire data set is on the vehicle.

(Simultaneous crosstalk.)

THE WITNESS: Yes SD card on the vehicle.

BY MR. NELSON:

Q Okay.

A Now the only additional I would like to make there is the SD card only has a limit capacity after which older vehicle drive data is over ridden.

(Simultaneous crosstalk.)

BY MR. NELSON:

Q We're talking about the trip Mr. Chan made to work in the work on the way home?

MR. BRANIGAN: (No audible response.)

MR. NELSON: I'm sorry?

THE WITNESS: No.

MR. BRANIGAN: I said objection to form.

THE WITNESS: No that's not what I mean. I mean if a vehicle is being driven for a whole year after a whole year of driving, next year comes along then and the SD card fills up with a full year of data, then the next years data potentially may start to over ride the previous data. It's not a single like the SD card has

enough space to capture a single day after driving.

Q It is enough?

A Yes yes it is.

Q All right.

A So this data set would be on the SD card.

Q And it's able to capture multiple days worth of data?

A Yes.

Q How many hours of driving would the SD card capture before it was start to over ride?

A I don't know, but it would be -- it's often, you know, months of data that it can capture. It all depends on how -- how thoroughly the vehicle is used by the driver and how many signals are being logged. So for example if somebody is driving the vehicle as an Uber driver for example, then that vehicle would generate more data so therefore, that data would be over ridden after a couple of months. Where as if it's a casual vehicle -- a casual driver that only drives the vehicle ton weekends, then that vehicles data or those drive cycles of data would be saved on the vehicle for longer periods of time than month before being over riden.

Q But okay. I just want to go back to one point. What is on the SD card is the same as the data

that's located -- that's put in the car log right?

MR. BRANIGAN: Objection form cumulative.

BY MR. NELSON:

Q Mr. Javed?

A Can you rephrase please.

Q The data that's on the SD card from Mr. Chan is the same data in your car log correct?

MR. BRANIGAN: Same objection.

THE WITNESS: That's correct.

BY MR. NELSON:

Q Does the car log have data that the SD card does not have?

A No.

Q Does the SD card have data that the car log does not have?

A Yes.

(Simultaneous crosstalk.)

MR. BRANIGAN: Excuse me do you mean in general or do you mean this subject vehicle?

THE WITNESS: Yes that's thanks for the clarification that's confusing.

BY MR. NELSON:

Q Does that mean your answer is not correct?

MR. BRANIGAN: Excuse me just the witness did not know we haven't seen the SD card.

BY MR. NELSON:

Q Mr. Javed what is your expectation of the SD card on Mr. Chans vehicle? Will it have data that is more than on the car log?

A So I'm just confused by your term car log. What exactly are you referring to? Are you referring.

(Simultaneous crosstalk.)

THE WITNESS: Are you referring to the car log website the car log system that we use to pick and choose signals or are you referring to this specific data set that we have here?

BY MR. NELSON:

Q I'm talking about how the Tesla repository of data that relates to vehicles like Mr. Chans, that data end up in a car log right?

A Ends up on the car log system.

Q Yeah. And is the data that's on the car log system an exact copy of what's on the SD card?

MR. BRANIGAN: Objection. Foundation. Lack after foundation.

Unless you're just asking generally.

MR. NELSON:

Q Mr. Javed you can answer. The question?

A I don't know if it's an exact copy.

Q Okay.

A It's possible for some data to be ton SD card that never got uploaded to car logs for whatever reason.

Q Okay. So what type of data would be on the SD card that is not on the car log system?

A It is possible for certain drive cycles and certain signal data certain logs on the SD card didn't get uploaded to car logs but for this incident, we have everything that the SD card has in car logs.

Q What do you mean?

A So the vehicles copy is on the car logs website.

Q How do you know that?

A Because the log sets are packaged in chunks on -- upon upload to car logs and car logs basically decodes these chunks into signals and alert. So for the chunk associated with this incident, we got a copy of that on our car log system.

Q Okay. I'm going to if you can bring this data up but I'd like you to think back to the photograph that you just showed us.

Is it fair to call it a photograph?

A Yes it is.

Q So does this data reflect that the car sensed the image of the Audi as depicted in that photograph?

MR. BRANIGAN: Objection form.

take place as opposed to asking this witness some questions.

Q Mr. Javed, is the vehicle that's the Chan vehicle, does it have what is referred to as an operational design domain?

A I'm not sure what that is.

Q Well, did you appreciate that that was one of the areas that you were supposed to be able to testify to?

A I don't think it has an operational design domain then if I don't know what it is.

Q Can you describe what an operational design domain is?

A No.

Q Besides the signalling data that we've already referred to, did this Tesla automobile capture data related to the sensing devices?

A How do you mean that?

Q I don't think I could be my clearer sir you know what the sensing devices are right?

A The devices are respect to the drivers assistance system yes I do.

Q Okay. And there are sensing devices that sense data correct?

A Yes.

Q And that data is transmitted somewhere correct?
A I'm not sure. My understanding is that data within the ECU responsible for that sensor would be process and had then that ECU will write signal data to the can bus and pix up signal data that's what we have with the data -- the log set or the data set that we have been looking at throughout this deposition.
Q Okay.
A But if you're looking for raw, citizenered data raw footage and raw signals I don't know where that would be and I don't think we even log that.
Q And first off whether or not you log it is that information tran mitt to Tesla?
A I don't know.
Q Who would know that?
A Probably specific to the drivers assistance prom probably somebody from the autopilot team.
Q Similar question sir: This vehicle that Mr. Chan had had a GPS system in it correct?
A Yes.
Q Okay. And was the GPS system associated with this vehicle tracking where this vehicle was leading up to the accident?
A Tracking in what way?
Q The way a GPS system tracks a vehicle sir.

maximum number of columns you have used?

MR. BRANIGAN: Do you mean in general?

MR. NELSON: As when he's done this work.

Q Well let me preface with a prepation.

Because when I've looked at these types of document with Tesla I have seen something like 40 columns.

So is there anything in your work environment recollude from including 40 columns instead of the 20 you have there or 21?

A How do you mean preclude me from including can you rephrase that.

Q Yeah I'll fray.

Why does the Chan case from 21 when I have gotten 40 on other cars?

A I generated this excel file with the columns I used to review the incident. There was additional columns as well that were not relevant to the incident. But I supplied that file to counsel and it's -- counsel determined which data to share and which to not share.

Q So how many columns of data did you pull out of the diagnostic log when you first looked at this accident?

A I don't have an exact number but it was maybe ten more signals. As I mentioned earlier in the

deposition those signals were related to saint control module signals and some of the longitudinal and lateral acceleration signals, so signal that were not really relevant to this incident review.

Q But you're the one that decided and I'm not taking a position with you that you did anything inappropriate with this but you're the one that is decided what's a relevant signal correct?

A The signals I used for the review I shared -- I set the file up with those signals to show with counsel the additional signals I also made that decision to not include it in the -- I made the decision not to look at the other signals, you know, three years ago not look at the other signals with the incident review but within the past week while I was preparing for this deposition I notice it had hand on detection and I wanted to confirm with the steering angle torque and so I did that. So that additional signal was part of the citizen mental signals that was in the original excel file that I was looking at and I was able to pull that signal into here and that's why we're seeing it.

Q How many signals are available for you to look at when you do this work?

A It's hard to put a number on it but there are many.

Q But can we do something besides 21 to many? Can you be more specific?

A I believe counsel said it best about 2000 is what he said.

Q And if we asked for all 2000 but in something like five minutes from the accident, is that possible to generate?

MR. BRANIGAN: Objection form.

THE WITNESS: Possibly. But I don't think you'll be able to get Microsoft excel to corporate with you at that point.

BY MR. NELSON:

Q So tell me how you go through the process of taking the data and the diagnostic log and input it into if excel spreadsheet.

A When I download the data set from car logs it's C con separated file common separated value excuse me, and Microsoft excel recollection ever recognize dot CSV files as file that it can open I just double click on it it opens automatically in Microsoft excel. That's it. And then I rename if signal names as at the top here and make some of these column over here nicer to look at with bolded letter ands bolded words and the rest of if data I don't touch.

Q What's the largest number of columns of data

that you've downloaded?

A Yeah maybe -- maybe 40 or 50 column files.

Q Counsel is there any objection to giving me this excel spreadsheet versus the PDF version?

MR. BRANIGAN: You mean the one Azam had been showing you.

MR. NELSON: Yes.

MR. BRANIGAN: But clarificationly spoke I don't know that I can do it inStan obtain louse and at this moment. And it'll have to be covered by a protective order. But generally speaking yes we'll produce it.

Who's actually scrolling right now.

THE WITNESS: That's me.

MR. BRANIGAN: Okay.

THE WITNESS: Sorry.

MR. BRANIGAN: It's not a problem I'm just I'm finally seeing the same things you guys are seeing it's would -- I'm just wondering what's going on.

THE WITNESS: Yeah.

MR. NELSON: Did you finally find the button to push Tom.

MR. BRANIGAN: I must have. Do you want to make it an exhibit to the depo make we believe do if you want.

MR. NELSON: Yeah we should.

MR. BRANIGAN: What is this fine?

MR. NELSON: Yeah.

MR. BRANIGAN: I'll send it to you.

MR. NELSON: I was going to mark the notice of deposition as one.

MR. BRANIGAN: Okay.

MR. NELSON: And I'm going to expect to get into any documents that I don't think are necessary now.

THE WITNESS: Counsel would it be possible for us to take a break.

MR. NELSON: Yeah we can take a break.

THE WITNESS: Okay.

MR. BRANIGAN: Okay.

(Recess.)

BY MR. NELSON:

Q Back on the record.

Azam from the standpoint of the data that is in that excel spreadsheet, is that data that is currently ton diagnostic log or is this data you downloaded along time ago that you were being told to show us today?

A This data I download along time ago and -- how do you mean currently on the diagnostic log?

Q Yeah is it still there?

A Still where in this car logs.

Q In the diagnostic log of the car log?
A In the car log system the Tesla system which houses the vehicle data.
Q Is the data still there?
A Yes that's right. It's there.
Q When we get to a point where we can take the SD card out of the car and download the data off of that, is it going to look like the data on the car log?
A You will need Tesla assistance taking that SD card data and decoding it, but yes the end product will be identical.
Q Yeah but -- so can you in very broad terms describe how that data gets decoded?
A My understanding of the decoding process is once the package from the vehicle has been uploaded to the car log system, there's a decoding algorithm which reeds the log data and parses out the signals and alerts for specific timestamps and separates the signals and alerts in -- because they come compressed in that file, the raw file. So it separates them out parses them out and then up loads them into car logs that louse the engineers and technicians to pick and choose the separate signals that -- you know for the various CCUs.
Q Okay. Azam I think that's all I have for tonight I don't know if your counsel has any but I do